Abstract of the Disclosure:

A method for compensating for multipath components in a received CDMA signal comprising a repetitive PRN code uses delay times in addition to the early, late and prompt delay times for determining if a multipath component is present in the received signal, and if so, making an adjustment to the delay time of the replica code generated by a receiver so as to minimize the difference between the correlation values for a delay time equal to -1 chip and a delay time more negative than -1 chip. In this manner, adjustments to the estimation time for the start of the PRN code can be made in a manner which minimizes the effects of multipath components. A system using additional delays and correlators in association with the code phase detector, a code numerical control oscillator and replica code generator is described for performing the above methodology. The methodology is particularly suitable for GPS receivers and may further be used in receivers that receive any type of digital sequence spread spectrum, code division multiple access signals. Compensation for multipath components with 180 degree phase shifts is also made as well as compensation due to smoothing of the triangular correlation function due to RF characteristics and non-ideal PRN codes.